68-7-8/16

The Influence of Soluble Admixtures on the Crystallization of Ammonium Sulphate Under Coke Oven Works' Conditions.

crystal faces. Similar experiments were carried out with industrial mother liquors (filtered), the results are given in Table 2. It was found that there was a sharp difference between the velocities of crystal growth in artificial and works' mother liquors at the same level of admixtures present, namely the rate of growth was higher than that which could be expected. This is explained by the influence of organic compounds in mother liquor. To explain the role of the latter compounds the influence of additions of oxalic acid to mother liquor (0.5 g/100 ml) on the rate of growth increases, probably due to the formation of stable complex ions with $Al^{\cdot\cdot\cdot}$, $Fe^{\cdot\cdot}$ and $Fe^{\cdot\cdot\cdot}$ which are unable to crystallise on crystal faces of ammonium sulphate and therefore have no influence on the rate of their growth. It is therefore concluded that organic substances present in mother liquors form complex ions with aluminium and iron ions thus counteracting their inhibiting influence on the growth of sulphate crystals. The influence of temperature (40 and 60 C) and acidity (within the range of 3-8%) of mother liquor on the crystal growth was also investigated (Table 4). An increase in the temperature by 20 C increases the rate

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68-7-8/16

The Influence of Soluble Admixtures on the Crystallization of Ammonium Sulphate Under Coke Oven Works' Conditions.

of volume growth of crystals by a factor of 1.5. The ratio of the length to width of crystals obtained in the investigated saturators varied within 10-15, while that for the crystal grown in the same liquors but under laboratory conditions between 4 and 6. Thus the shape of crystals grown under works conditions depends not only on the presence of admixtures but on supersaturation of the mother liquor. The latter causes rapid precipitation of needle-like nuclei. When pyridine recovery is practiced then after the removal of pyridine, iron and aluminium compounds and tar particles remain in suspension. If the liquid is filtered then the rate of growth of crystals and their shape is improved (Table 5). Therefore filtration or settling of the liquor after the removal of pyridine bases is recommended. There are 5 tables, 11 figures and 13 references, including 8 Slavic.

ASSOCIATION: Siberian Metallurgical Institute (Sibirskiy Metallurgicheskiy Institut).

AVAILABLE: Library of Congress

Card 4/4

ZARETSKIY, Ya.S.; RASPOPOVA, L.V.; AVECHKO-ANTONOVICH, L.A.; FRIDLAND, V.M.; KIRPICHNIKOV, P.A.; TAGANTSEV, A.V.

New thiokol sealers for the construction industry. Stroi. mat. 10 no.3:8-9 Mr '64. (MIRA 17:6)

Tagantsev, K.

21

6
0

The influence of water vapor and oxygen on the photoelectric effect and luminescence of zinc oxide. A. N. Terenin, E. K. Putseiko, and K. Tagantsev (Univ. Leningrad). *J. phys. radium* 17, [illegible] (1956). At 100-mm. Hg pressure only insignificant changes are produced by O on degassed ZnO samples. H_2O vapors decrease the intensity of the luminescence if the pressure is held at 18.6 mm. Hg. Between 1 and 10 mm. Hg an increase of the intensity was observed. Pronounced extinction is observed if ZnO first is exposed to O and then to H_2O vapor. Moist O (p_{H_2O} = 16 mm.) increases the photoelec. potential of vacuum-degassed ZnO. O can be replaced by adsorbed quinone vapor. The phenomenon is explained by a decrease of the recombination rate due to an electronic affinity of the adsorbed mols. F. Schossberger

phys

3

51-3-11/24

AUTHORS: Tagantsev, K.V. and Terenin, A.N.

TITLE: Effect of adsorption of gases on luminescence of zinc oxide. (Vliyaniye adsorbtsii gazov na lyuminestsentsiyu okisi tsinka).

PERIODICAL: "Optika i Spektroskopiya" (Optics and Spectroscopy), 1957, Vol.2, No.3, pp. 355-360 (U.S.S.R.)

ABSTRACT: Continuation of the work of A. N. Terenin, V.Gachkovskiy and K. Ya. Kasparov (Izvestiya Akad. Nauk SSSR., O.M.E.N. (ser.khim.), p.805, 1936; Acta Physicochimica U.R.S.S., Vol.4, p.521, 1937; Doklady Akad. Nauk SSSR, Vol.28, p.515, 1940) on quenching of luminescence of solids by gases and vapours. ZnO was deposited on glass or metal plates and heated in vacuo to 200 or 400 C. It was excited by a mercury lamp. A uranium-glass plate served as a luminescent standard. A differential photometer was used to measure the difference between the emissions of ZnO and of the uranium glass. The emission intensity was measured using (a) short exciting light pulses of 10 seconds with at least 5 minute dark intervals and (b) continuous excitation. Pulse measurements showed that adsorption of oxygen, ozone (produced by electrodeless discharges), water vapour and quinone vapour on ZnO, which was vacuum dried, produces

Card 1/2

Effect of adsorption of gases on luminescence of zinc oxide. (Cont.)
51-3-11/24

quenching of luminescence at adsorbed gas or vapour pressures from 0.1 mm Hg upwards. Continuous excitation increased the emission intensity of the quenched samples as long as the excitation was applied. When the continuous excitation ceased the emission feel to the original quenched value. This effect was ascribed to photodesorption of the adsorbed molecules. An energy level scheme for ZnO is given. This has two local levels in the energy gap: an upper one with excess Zn atoms (dark conductivity centres) and a lower one with Zn^+ ions (photoconductivity and luminescent centres). Adsorption of O_2, O_3, O, H_2O and quinone produces a double layer and more electron trapping levels at the ZnO surface. The results are interpreted in terms of the above energy scheme.

Card 2/2

There are 9 figures and 13 references, 11 of which are Slavic.

SUBMITTED: October 6, 1956.

ASSOCIATION: Physical Research Institute, Leningrad State University. (Nauchno-Issledovatel'skiy Fizicheskiy Institut, Leningradskogo Gosudarstvennogo Universiteta).

AVAILABLE:

48-4-16/48

SUBJECT: USSR/Luminescence

AUTHORS: Tagantsev K. V. and Terenin A. N.

TITLE: Effect of Gas Adsorption on Zinc Oxide Luminescence (Vliyaniye adsorbtsii gazov na lyuminestsentsiyu okisi tsinka)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #4, pp 525-527 (USSR)

ABSTRACT: Dry oxygen has a quenching effect on the luminescence of zinc oxide trained at 200°C under vacuum. Water vapor also causes quenching. Oxygen and water vapor combined have a strong quenching effect. The quenching intensity depends on duration of illumination. When illumination lasted long, the luminescence after being quenched arises again. Oxygen subjected to the action of electric discharges causes strong quenching. The luminescence, once quenched, arises again at continuous illumination. Low-pressure quinone vapors also quench the luminescence of zinc oxide, which appears again at continuous illumination.

These phenomena can be interpreted from the viewpoint of electron capture by negatively-charged adsorbed molecules.

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48-4-16/48

TITLE: Effect of Gas Adsorption on Zinc Oxide Luminescence (Vliyaniye adsorbtsii gazov na lyuminestsentsiyu okisi tsinka)

In a discussion that followed this report A. Krasnovskiy added that acidification of water intensifies its quenching abilities, and reduction in pH toward alkalinity decreases the quenching effect.

No references are cited.

INSTITUTION: Leningrad State University im. Zhdanov

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 2/2

TAGANTSEV, K.V.

6017. EFFECT OF THE ADSORPTION OF GASES ON THE LUMINESCENCE OF ZINC OXIDE. K.V.Tagantsev and A.N.Terenin. Dokl. Akad. Nauk SSSR, Vol. 112, No. 2, 241-4 (1957). In Russian.

An aqueous suspension of ZnO obtained by burning Zn in air was spread on glass plates which were then heated for several hours at 200° or 400° C in a high vacuum. The luminescence was excited by a Hg lamp and measured with a photoelectric photometer. The measurements were conducted (1) after continuous illumination, and (2) after short (10 sec) illuminations with dark intervals of ≥ 5 min, with or without added vapours or gases. Dark-period adsorption of H_2O or O_2 was found to quench markedly the luminescence; a particularly intense quenching was shown by quinone and by O_2 which was shortly before subjected to a weak electrodeless discharge (probably O_3). The luminescence of ZnO, quenched by O_2 during short illuminations, was found to flare up at higher O_2 pressures and continuous illumination, this phenomenon being reversible and probably due to photodesorption of O_2; similar behaviour was found with O_2, H_2O and quinone vapour. A tentative theoretical explanation is given. F.Lachman

Physical Inst., Leningrad State Univ.

22160

S/048/61/025/004/009/048
B104/B201

24.3500

AUTHOR: Tagantsev, K. V.

TITLE: Extinction and flare-up of luminescence of zinc oxide under the action of adsorbed and capillary-condensed vapors and gases

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 464-466

TEXT: The present paper has been read at the 9th Conference on Luminescence (Crystal Phosphors), Kiyev, June 20-25, 1960, and is the continuation of a study conducted by the author jointly with Terenin (Ref. 1: Tagantsev K. V., Terenin A. N., Optika i spektroskopiya, 2, 355 (1957); Izv. AN SSSR. Ser. fiz., 21, 525, (1957)). The object of the investigation was zinc oxide, produced by burning zinc in the air, and subjected to after-treatment in some cases. The specimens exhibited either a green luminescence band with a maximum at about 510 mμ, or one of the bands prevailed. During the experiment the ZnO was trained in high vacuum for four hours at 200°C, the luminescence was excited with Hg radiation, and the intensity was measured

Card 1/3

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B104/B201

Extinction and flare-up...

with a differential photometer. With a view to excluding an effect of light upon the system absorbent - absorbate, 10-second flashes were employed, with pauses of at least 5 minutes in-between. The following results were obtained: 1) nitrogen oxide extinguishes luminescence in short-time exposure; a growth of luminescence is observed on passing over to a longer exposure; 2) acetone- and benzene vapors have a similar effect; 3) N_2O, CO, and CO_2 exhibit no effect upon luminescence. The possible mechanisms of these effects are discussed. The emission of luminescence radiation from the luminescence centers which, like the conductivity centers, are regarded as thermally ionized excessive Zn atoms, takes place by recombination with conduction electrons. Extinction takes place in the following manner: the adsorbed nitrogen-oxide molecule captures in the dark an electron from the conduction band, which gives rise to a bending of the band and to an impoverishment of electrons in the conduction band on the surface. The recombination probability is thus reduced. Experiments conducted by V. N. Filimonov have confirmed this view. A similar mechanism is described for the extinction of luminescence by benzene. It is polarized in benzene adsorption, with the negative pole facing the zinc oxide. This leads to an increase of the electron energies on the surface, whereby the conduction

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B104/B201

Extinction and flare-up ..

band is likewise bent. Luminescence is appreciably reduced by the capillary condensation of benzene- and acetone vapors. In the author's opinion this is correlated with a change in the conditions of diffuse-scattered light. It had been already established in the abovementioned previous work that dry oxygen causes luminescence to extinguish in a number of specimens, while in others, extinction by oxygen occurs only in the presence of water. The latter case of extinction is explained by a reduction of the acceptor level of oxygen on its approaching the dipole molecules. Thus, extinction should also occur at high concentrations of dipole molecules, i.e., in case of a capillary condensation. Experiments have confirmed this conclusion to be correct. A. N. Terenin is thanked for his assistance. F. I. Vilesov is mentioned. There are 2 figures, 1 table, and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc

ASSOCIATION: Laboratoriya fotokataliza Leningradskogo gos. universiteta im. A. A. Zhdanova (Laboratory for Photocatalysis, Leningrad State University imeni A. A. Zhdanov)

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754710016-9"

"Relations between the ultra-fine structure of the plant plastid apparatus and its functions."

report submitted for 10th Intl Botanical Cong, Edinburgh, 4-12 Aug 64.

Inst of Biological Physics, AS USSR, Moscow.

[illegible], [illegible]

"[illegible] (Grafit Section)." [illegible] Leningrad Dzerzhinskiy Mech Engineering Sci Res Inst imeni V. A. [illegible], [illegible], 1955. (Dissertation for the degree of Candidate of Technical Sciences)

[illegible] No. [illegible], [illegible] 1955

USSR/Processes and Equipment for Chemical Industries-- K-1
Processes and apparatus for chemical Technology.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10594

Author : Tagantseva, T. F.
Inst : Not given
Title : Heat Transfer Between Suspended Ground Peat Particles and an Air Stream

Orig Pub: Torf. Prom-st, 1956, vol. 33 No 5, 30-32

Abstract: The drag produced by suspended ground peat particles and the heat transfer to an air stream have been investigated. Experimental equipment and operating methods are described. The drag coefficient in the region of Re = 200-4,000 is practically independent of the Re and varies irregularly between the limits 0.5 and 0.8. The heat transfer is adequately expressed by the equation $Nu = 0.32Re^{0.9}$. On the basis of the experimental data obtained, marked differences are shown to exist between the values of the drag coefficient for

Card 1/2

USSR/Processes and Equipment for Chemical Industries-- K-1
Processes and apparatus for chemical technology.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 10594

Abstract: irregularly shaped particles and the drag coefficient for spherical particles.

Card 2/2

TAGANTSEVA, T.F.

1238. HEAT TRANSFER IN DRYING OF MILLED PEAT IN SUSPENSION.
Tagantseva, T.F. (Torf. Prom. (Peat Ind., Moscow), 1957, (2), 17-20). V. 34
The movement of a semi-dispersed system and the heat transfer between the stream of gas and the peat particles are examined and formulae based on experiments are given for the relationship between the Nusselt and Reynolds numbers in a tube dryer. (L).

All-Union Thermo Technical Inst. im Dzerzhinskiy

TAGANTSEVA, T. F.

228. HEAT TRANSFER BETWEEN HOVERING PARTICLES OF MILLED PEAT AND A STREAM. Tagantseva, T.F. (Torf. Prom. (Peat Ind., Moscow), 1956, (5), 30-32). Experimental work at VTI on the drying of peat in suspension is described. The results show the difference between the flow round hovering particles of irregular shape like milled peat and that round spherical ones. A formula is derived for heat transfer to hovering particles of milled peat. (L).

Fuel

TAGANTSEVA, T.F., kandidat tekhnicheskikh nauk.

Method for the calculation of a vertical-tube gas-fed dryer for milled peat. Torf.prom. 34 no.5:16-18 '57. (MIRA 10:10)
(Peat--Drying) (Drying apparatus)

SOV/170 59-4-3/20

14(10)

AUTHOR: Tagantseva, T.F.

TITLE: On the Problem of Drying Gypsum-Concrete Panels (K voprosu o sushke gipsobetonnykh paneley)

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 4, pp 15-20 (USSR)

ABSTRACT: Construction engineering employs now an industrial method of manufacturing gypsum-concrete inter-room partitions, the method of rolling. However, the capacity of existing plants is limited by the efficiency of the drying installations. Therefore the author undertook an investigation of the drying process with an aim of its intensifying and establishing the optimum run of this process. As a result of experimenting in the Magistral'nyy Plant the author arrived at the conclusion that the combined drying method is very advantageous, for it makes possible to obtain good quality panels and considerably intensifies the drying process. The combined method consists in the alternation of intense heating with subsequent cooling by local air blowing. The duration of drying was reduced from 35 to 20 or 24 hours and the capacity of the drying installation in the Magistral'nyy Plant increased by 50%. The parameters of the dry-

Card 1/2

On the Problem of Drying Gypsum-Concrete Panels SOV/170-59-4-3/20

ing process were the following: the temperature of the gas at the entrance was 129°C and its velocity was 2.1 m/sec. There are 3 graphs.

ASSOCIATION: Nauchno-issledovatel'skiy institut stroitel'noy fiziki Akademii S i A SSSR (Scientific Research Institute of Construction Physics at the Academy of Construction and Architecture of the USSR), Moscow

Card 2/2

TAGANTSEVA, T.F., kand. tekhn. nauk

Intensification of drying processes of rolled gypsum concrete panels. Stroi. mat. 5 no.6:22-25 Je '59. (MIRA 12:8)
(Gypsum) (Walls)

TAGANTSEVA, T.F., kand.tekhn.nauk

The first conference of the readers of the periodical "Inzhenerno-fizicheskii zhurnal." Inzh.-fiz.zhur. no.11:124-127 N '60. (MIRA 13:11)

(Engineering--Periodicals)

BUROV, Yu.G., kand.tekhn.nauk; TAGANTSEVA, T.F., kand.tekhn.nauk

Effect of temperature and moisture on the coefficient of heat conductivity of building materials. Stroi.mat. 6 no.5:34-35 My '60. (MIRA 13:7)

(Building materials--Testing)
(Heat--Conduction)

TAGANTSEVA, T. F.

"THE Optimum Regime of Drying of Hypso-concrete"

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

TAGANTSEVA, T.F., kand.tekhn.nauk; BUROV, Yu.G., kand.tekhn.nauk

Heat conductivity of capillary porous bodies at temperatures below the freezing point. Stroi. mat. 7 no. 1:31-32 Ja '61. (MIRA 14:1)

(Porosity) (Heat—Conduction)

TAGANTSEVA, T.F., kand.tekhn.nauk

The optimum conditions fro drying gypsum-concrete slabs. (MIRA 15:11)
Trudy NIISF no.1:22-33 '62.
(Gypsum products—Drying)

L 11179-66 EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/EWP(b) IJP(c) JD

ACC NR: AP6004951 SOURCE CODE: RU/0027/65/010/001/0049/0052

AUTHOR: Tavadze, F. N.; Bairamasvili, I. A.; Tagareisvili, G. V.; Hantadze, D. V.

ORG: Institute of Metallurgy, Tbilisi

TITLE: Thermic expansion of boron and the volumetric effect of its melting

SOURCE: Studii si cercetari de metalurgie, v. 10, no. 1, 1965, 49-52

TOPIC TAGS: boron, heat expansion, metal melting

ABSTRACT: The authors found that as opposed to "semimetals" which have a small value of the Gruneisen constant and whose volume decreases on melting, boron's volume increases on melting which is a characteristic of true metals. The volume increase to the melting temperature also corresponds to the value of the Gruneisen constant for typical metals. Orig. art. has: 1 figure and 1 table. [JPRS]

SUB CODE: 11 / SUBM DATE: none / ORIG REF: 005 / OTH REF: 002

Card 1/1

[illegible] parts with different profiles. [illegible]
[illegible] action and the use of [illegible] for the prosthesis of teeth. [illegible] 27
[illegible] and in [illegible] for the prosthesis of teeth. [illegible]
Forming and storied-casting of pig-iron pieces for stoves by machinery.
[illegible] 22.

Vol. [illegible], No. 5, Aug. 19[illegible].
[illegible]
[illegible]
Sofiia, Bulgaria

Sc: East European Accession, Vol. 6, No. 3, March 1957

Economic geography of the Zeravshan Valley mountains. Nauch. trudy TashGU no.251. Trudy Nauch.-issl. otd. Geog. fak. n.3: 4.-46 '64. (MIRA 1 3)

AVRAMOV, A.; KOSHEV, L.; TELIZAROV, S.; GENEV, G., TAGAROV, I.

Apropos of the etiopathogenesis of acute appendicitis in children. Khirurgiia (Sofia) 18 no.3:320-327 '65.

1. VMI, Sofiia, Katedra po bolnichna khirurgiia (rukovoditel: prof. St. Dimitrov), Katedra po patologicheska anatomiia (rukovoditel: prof. B. Kurdzhiev).

TA[illegible], I.

Vegetable garden in Dobruja. p.34. KOOPERATIVNO ZEMEDELIE. (Ministerstvo no zemedelieto) Sofiia. Vol. 11, no. 6, June 1956

SOURCE: East European Accessions List, (EEAL), Library of Congress, Vol. 5, no. 12, December 1956

MESHCHERSKIY, A.; TAGAROV, Z.

New historicogeographical data on the Amur. Izv.Vses.geog.ob-va 89 no.4:359-362 Jl-Ag '57. (MIRA 10:10)
(Amur River)

TAGAROV, Z.; FRIDMAN, V.G., red.; PECHERSKAYA, T.I., tekhn.red.

[Labor movement in the Cheremkhovo coal district] Rabochee dvizhenie v Cheremkhovskom ugol'nom raione; kratkii istoricheskii ocherk. Irkutsk, Irkutskoe knizhnoe izd-vo, 1959. 144 p. (MIRA 12:12)

(Cheremkhovo--Coal miners)

...EV. P.

4

BRAZOVANOV, D

Country: Bulgaria

Academic Degree: Professor

Affiliation: Member of the Board of Editors (Redaktsionen Suvet) of Khigiena, Editing Director: Dr L. STOYANOV

Source: Sofia, Khigiena, No 2, Mar/Apr 61, pp 36

Data: "Polio Prevention Through Active Immunization."

Co-authors:
GAGANOV, Zh.
YANKOV, K.
KARACHOLEV, Il.

BEYLINSON, M.B.; TAGAVARYAN, L.G.

Readers conference on IA.IA. Lipenkov's book "General technology of wool." Tekst. prom. 23 no.12:78 D '63. (MIRA 17:1)

1. Starshiy inzh. nauchno-issledovatel'skoy laboratorii Minskogo kamvol'nogo kombinata.

TAGAY, Ye.D.

Using the Vikhert-Chibisov method to determine the velocity parameters in a medium in deep seismic probing. Prikl. geofiz. no.36:50-65 '63. (MIRA 16:9)

(Seismic prospecting)

TAGAY, Ye.D.

Methodology of seismic prospecting by the reflected wave method in subsalt horizons of the Caspian Lowland. Prikl. geofiz. no.36:86-100 '63. (MIRA 16:9)
(Caspian Lowland--Seismic prospecting)

LIPOVETSKIY, I.A.; NEVOLIN, N.V.; TAGAY, Ye.D.

Results of regional seismic investigations in the Caspian Lowland. Prikl. geofiz. no.38:91-98 '64. (MIRA 18:11)

TAGAYEV, A.M.

The IPS-2 machine for testing motor-vehicle tires. Biul.tekh.-ekon.-inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.8:35-36 '62. (MIRA 15:7)

(Tires, Rubber—Testing)

TAGEYEVA, Nadezhda Viktorovna; TIKHOMIROVA, Mariya Matveyevna;
PEREL'MAN, A.I., doktor geol.-miner. nauk, otv. red.;
FILIPPOVA, B.S., red. izd-va; DOROKHINA, I.N., tekhn. red.

[Geochemistry of the bottom sediments in the Black Sea (northwestern part)]Gidrogeokhimiia donnykh osadkov Chernogo moria (severo-zapadnaia chast'). Moskva, Izd-vo Akad. nauk SSSR, 1962. 145 p. (MIRA 16:1)

(Black Sea--Deep-sea deposits)
(Geochemistry)

TAGANTSEVSKAYA, A. A.

"Determination of the Amplitude-Phase Characteristic of a Linear System From the Curve of Its Transient Process", Avtomatika i Telemekhanika, Vol 14, No 2, 1953, 231-237.

Presents a series of formulas, permitting the calculation of the amplitude-phase characteristic and transfer functions of linear systems from the curve of its transient process, i.e., according to experimental data. The curve of a transient process is approximated to a step function with a constant step.

For the derivation of the formulas the so-called Laplace discrete transforms are used (Tsypkin, Ya. Z., Perekhodnye i ustanovivshiesya protsessy v impul'snykh tsepyakh (Transient and Steady-State Processes in Pulse Circuits) Gosenergoizdat, 1951).

The paper is deficient in its lack of an evaluation of computation errors. (RZhMekh, No 11, 1954) SO: Sum. No. 443, 5 Apr. 55

KRASSOV, I.M.(Moskva); TAGAYEVSKAYA, A.A.(Moskva); VASIL'YEVA, M.A.(Moskva)

Rectangular wave techique for determining the amplitude-phase characteristics of automatic controlsystems. Avtom. i telem. 14 no.3:322-327 My-Je '53. (MLRA 10:3)
(Pneumatic control)

DUDNIKOV, Ye.G.(Moskva); KRASSOV, I.M. (Moskva); TAGAYEVSKAYA, A.A.(Moskva); TEMNYY, V.P. (Moskva); BARKALOV, P.T., (Moskva).

Experimental determination of the dynamic characteristics of control systems in industrial plants. Avtom. i telem. 14 no.4:418-423 Jl-Ag '53. (MLRA 10:3)

(Automatic control)

p 3

PHASE I BOOK EXPLOITATION 869

Avtomatizatsiya proizvodstvennykh protsessov (Automation of Production Processes) No. 2. Moscow, Izd-vo AN SSSR, 1958. 177 p. 6,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

Resp. Ed.: Lossiyevskiy, V.L., Doctor of Technical Sciences, Professor; Ed. of Publishing House: Klimov, V.A.; Tech. Ed.: Rylina, Yu. V.

PURPOSE: This volume is intended for specialists engaged in research work and planning of automation process in various branches of industry.

COVERAGE: The volume contains articles summarizing the results of investigations carried out in laboratories for the automation of production processes of the Institut avtomatiki i telemekhaniki,

Card 1/7

Automation of Production Processes 869

The study attempts to characterize the status of automation of production processes and to chart the more important directions for further development. There are no references.

Finkel'shteyn, S.M. Classification of Production Processes Subject to Automation and Typical Solutions of the Latter 19

The author reviews the classification of automated production processes with emphasis on continuous flows production which in terms of present instrumentation and outlook is most suitable for automation. There are 10 Soviet references.

Motulevich, D.Yu. and Tagayevskaya, A.A. Types of Controller Actions During Experimental Studies of Controlled Processes 43

Types of controller actions employed in studying industrial processes are reviewed, optimum conditions for the use of this or that controller action are indicated, shapes of curves for transition process and characteristics of stable conditions for single capacity plants are shown,

Card 3/7

a review of production costs, analysis of material and labor expenditures, and subsequent introduction of automation on sectors where automation appearsto be economically more effective than conventional methods of production. There are 1 Soviet, 1 Czech, and 1 American references.

AUTOMATION OF INDUSTRIAL PLANTS

Popovskiy, A.M., Gritskov, V.I., and Govorov, A.A. Automation of the Desiccating and Absorbing Departments of Plants Using the Contact Method of Producing Sulphuric Acid 97

The study describes fully the automation of the desiccating and absorbing department of the Shchelkovskiy khimicheskiy zavod (Shchelkovskiy Chemical Plant). The principal product of this department is monohydrate and the automation embraces the processes within the desiccating tower, and oleum and monohydrate absorbing columns. There are 19 Soviet references.

Card 5/7

Shumilovskiy, N.N. and Pliskim, L.G. Some Problems Encountered in the Development of an Automatic Control System for the Gasification Process in a Boiling Layer 153

The authors briefly described the technological process taking place in the boiling layer, the principal plan for automatic control, and characteristic features of the boiling layer. There are 1 Soviet, 2 German and 4 English references.

P skin, L.G. A System of Automatic Control of the Gasification Process in a Boiling Layer 164

The article describes the plan for a complex automatic control worked out in the Institute for Automatics and Telemechanics of the USSR Academy of Sciences with the participation of GIAP (State Institute of the Nitrogen Industry) and the Chirchik khimelektrokombinat MKhP SSSR (Chirchik Chemical-Electrical Combine of the Ministry of the Chemical Industry, USSR). There are 4 Soviet and 1 English references.

AVAILABLE: Library of Congress

Card 7/7

JG/jmr
11-25-58

21378
S/194/61/000/009/024/053
D209/D302

16.8000 (1031)

AUTHOR: Tagayevskaya, A.A.

TITLE: Apparatus for applying a pneumatic extremum regulator to objects with several regulating elements

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 9, 1961, 38, abstract 9 V312 (V sb. Vopr. pnevmo- i gidroavtomatiki, M., AN SSSR, 1960, 158-161)

TEXT: An apparatus is described which permits application of a pneumatic extremum regulator for general industrial use with one input for optimizing a parameter, whose magnitude depends on the position of several regulating elements (RE). When constructing the regulation scheme of this kind a method of sequential shift of RE is utilized, in which partial extrema of parameters are obtained for all inputs. An attachment which serves as an addition to the regulator, switches over the regulator from one RE to another and provides the change of speed of search for the extremum dur-

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21378
S/194/61/000/009/024/053
D209/D302

Apparatus for applying...

ing the change-over. This attachment is constructionally based on the system of a pneumatic discrete action computer and consists of the following basic units: 1) An impulse counter - a ring 3-discharge counting circuit; 2) A commanding unit (CU) - a ring multi-discharge counting circuit; 3) A block of integrator adjustable throttles with a pneumatic relay; 4) A block of "relay-pressure repeater" assemblies. The ring counting circuits consist of retaining elements for one cycle of a given time. In operation, the command impulse from the regulator comparison element enters a pneumatic trigger which consists of retaining elements and a logic element NO. The trigger output signals control the operation of the extremum regulator integrator. Integration factor (speed of shift of RE) is determined by the throttle adjustment. The integrator output pressure appears at the input of throttle blocks and the relay with repeaters, and actuates the CU which operates the pneumatic relay. At the same time the integrator output combines with one of RE, and in the integrator circuit a corresponding adjustable throttle is connected. The switch-over of CU to the next RE takes

Card 2/3

ACCESS... R: AT4042433 S/0000/64/000/000/0005/0020

AUTHOR: Berends, T. K.; Tagayevskaya, A. A.; Tal', A. A.

TITLE: Structural elements of pneumoautomatic devices and systems

SOURCE: Vsesoyuznoye soveshchaniye po pnevmo-gidravlicheskoy avtomatike. 5th, Leningrad, 1962. Pnevmo- i gidroavtomatika (Pneumatic and hydraulic control); materialy* soveshchaniya. Moscow. Izd-vo Nauka. 1964, 5-20

TOPIC TAGS: automation, automatic control system, pneumatic control system, pneumatic relay, pneumatic amplifier, pneumatic resistance, pneumatic capacitance, pneumatic repeater, pneumatic switch

ABSTRACT: Pneumatic devices have become fundamental tools in the automation of many sections of industry, such as the chemical, petroleum refining, gas, metallurgical, and lumber industries. This paper is essentially a survey of the components and assemblies of pneumatic devices which can be used in automatic control systems. The authors point out that the logical functions required in modern control systems cannot be accomplished by the devices of the AUS (Aggregate Unified System), each of which is a self-contained block, but require the flexibility of the USEPPA (Universal System of Elements for Production Pneumo-Automation) in which each new device is created by combining various universal pneumatic elements

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ACCESSION NR: AT4042433

(amplifiers, relays, resistances, capacitances, repeaters, switches, etc.) onto special plug-in boards. Credit for this new approach is given to Ferner (V. Ferner. Anschauliche Regelungstechniek. Berlin, Verlag Technik, 1960). They show how pneumatic elements can perform the various tasks usually associated with mechanical and electrical elements, and describe some of these elements in detail, with schematic diagrams of various systems for analog and digital control systems and relay systems. Special attention is given to generators, impulsors, and memory and delay units. Orig. art. has: 27 figures and 17 formulas.

ASSOCIATION: none

SUBMITTED: 29Jan64 ENCL: 00

SUB CODE: IE NO REF SOV: 007. OTHER: 001

Card 2/2

BERENDS, T.K.; YEFREMOVA, T.K.; TAGAYEVSKAYA, A.A.; TAL', A.A.

Principle of universal elements in pneumatic control systems. Priborostroenie no.11:3-8 N '63. (MIRA 16:12)

ACCESSION NR: AP4011727 S/0119/64/000/001/0030/0031

AUTHOR: Tagayevskaya, A. A.; Temny*y, V. P.

TITLE: All-Union Conference on pneumatic and hydraulic automatic devices

SOURCE: Priborostroyeniye, no. 1, 1964, 30-31

TOPIC TAGS: automatic device, automatic control, USEPPA component, pneumatic automatic control, hydraulic automatic control, pneumatic hydraulic device conference, GRK-1 hydraulic regulator

ABSTRACT: The Sixth All-Union Conference on pneumatic and hydraulic automatic devices took place in Baku on October 14-17, 1963. The Conference was attended by 450 representatives of 202 organizations from 43 Soviet cities. Seventy reports were delivered. Universal USEPPA components were adopted at the Tizpribor plant, Moscow, for manufacturing over 20 various control devices made up from these components. Also, the Ust'-Kamenogorsk instrument plant

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ACCESSION NR: AP4011727

has begun producing the above components and control devices. Previous types of hydraulic jet-type regulators are considered unsatisfactory. New control systems, such as the GRK-1 hydraulic regulator, developed by the Institute of Automation and Telemechanics, AN SSSR, are based on unitized components. Sluggishness in introducing new components and "opposition to the introduction" are noted. Orig. art. has: no figure, no formula, and no table.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 10Feb64	ENCL: 00
SUB CODE: CG, IE	NO REF SOV: 000	OTHER: 000

Card 2/2

SOV/[illegible]

[illegible]; [illegible]; [illegible]

[illegible] design of continuous action controllers for general industrial use

[illegible] Institut avtomatiki i telemekhaniki. Pnevmoavtomatika (Pneumatic automatics). Moscow, Izd-vo Nauka, 1966, 71-80

[illegible] pneumatic control, pneumatic device, automatic pneumatic control, indus-

[illegible] of the voltage is performed. At a [illegible] the amplification factor is 5% and the phase accuracy is 5° for no-load conditions. Two types of resistances are available--fixed and variable. Fixed resistances are capillaries [illegible] 0.15 and 0.32 mm, and 20 mm length. Variable resistances are used in feedback [illegible] circuits, and timing circuits. Over the operational range of 0-1.4 [illegible], these resistances are nonlinear. The capacitors consist of hermetically sealed

Card 1/2

TAGAYEVSKAYA, A.I.

Note on certain modification of the laryngeal tissue in typhoid fever. Vest. otorinolar. 13 no.2:59-62 Mar-Apr 51. (CIML 20:8)

1. Scientific Worker at the Department of Morphology (Head—Prof. Ya.A. Vinnikov), Central Scientific-Research Institute of Otorhinolaryngology of the Ministry of Public Health RSFSR (Director—Honored Worker in Science Prof. V.K. Trutnev).

TAGAYEVSKAYA, A. I.

TAGAYEVSKAYA, A. I. -- "Morphological Changes of the Larynx in Typhoid and Typhus Fever." Sub 6 May 52, Central Inst for the Advanced Training of Physicians. (Dissertation for the Degree of Candidate in Medical Sciences.)

SO: Vecherniaya Moskva January-December 1952

TAKAYEVSKAYA, A.I.

Some changes in the laryngeal tissues in exanthematous fever. Trudy gos.nauch.-issl.inst.ukha, gorla i nosa. 6:394-399 '55. (MIRA 12:10)

1. Iz patologo-gistologicheskoy laboratorii (zav. R.Ya.Tret'yakova) Gosudarstvennogo nauchno-issledovatel'skogo instituta ukha, gorla i nosa.

(EXANTHEMATA) (LARYNX)

BROZGOL', A.M.; TAGAYEVSKIY, L.I.; TAPTAPOVA, S.L.

Characteristics of oral prosthesis following laryngectomy. Stomatologiia 40 no.3:85-88 My-Je '61. (MIRA 14:12)

1. Iz stomatologicheskogo poliklinicheskogo otdeleniya i otolaringologicheskogo otdeleniya (zav. otdeleniyem - doktor med.nauk I.N. Aleksandrov) Moskovskogo gorodskogo chelyustno-litsevogo gospitalaya (nachal'nik - dotsent A.A.Kovner).
(LARYNX--SURGERY) (DENTAL PROSTHESIS)

[illegible]

[illegible]

[illegible]

ALIYEV, R.K.; ALLAKHVERDIBEKOV, G.B.; TAGDISI, D.G.

Chemical composition and certain pharmacological properties of the tea fungus infusion. Izv.AN Azerb.SSR no.7:97-109 Jl '55. (MLRA 9:1)

(Beverages) (Fungi)

TAGDISI, D.G.

The characterization of the chemical composition of Solanum nigrum, growing in Azerbaidzhan, and the effect of its preparations upon the cardiovascular system. A. I. Karaev, R. K. Aliev, G. B. Allakhverdibekov, and D. G. Tagdisi. *Izvest. Akad. Nauk Azerbaidzhan. S.S.R.* 1955, No. 10, 61-72(in Russian).—The plant material contains alkaloids 0.04%, glycosides and other sugar components 1.8%, fatty matter 1.6%, resinous substances 5%, volatile oils traces, and vitamin C 120 mg. %. Galenic prepns. (aq. infusion and decoction), after transient stimulation, depress the central nervous system and the reflexes of the spinal cord; small doses increase and large doses decrease cardiac activity; in acute expts. an appreciable reduction in blood pressure is evident; in the isolated rabbit ear vasodilation is observed.

A. Lassla

4

Med

ALIYEV, R.K.; ALLAKHVERDIBEKOV, G.B.; TAGDISI, D.G.; ISMAILOV, A.I.

Chemical composition of the herbage and roots of parsley, cultivated in Azerbaijan, and effect of parsley preparations on the carddiovascular system. Uch.zap. AGU no.12:53-62 '55. (MLRA 9:11)
(Azerbaijan--Parsley) (Cardiac glycosides)

USSR/Pharmacology. Toxicology. Cardiovascular Drugs

Abs Jour : Ref Zhur - Biol., No II, 1958, No 51997

Author : Aliyev R.K., Allakhverdibekov G.B., Tagdisi, D.G., Ismailov A.I.

Inst : Azerbaydzhan University

Title : On the Characteristics of the Chemical Composition of the Leaves and Roots of Petroselinum Sativum Hoffin., Cultivated in Azerbaidjan and the Effects of its Preparations Upon the Cardi-vascular System

Orig Pub : Uch. zap. Azerb. un-t, 1955, No 2, 53-62

Abstract : The leaves and roots of petroselinum satinum Hoffm. contain alkoloids, glycosides, saccharides, aromatic oils, organic acids and vitamins C and K. It was demonstrated in experiments on mice, which received subcutaneosly 1 ml doses of a 20-30 percent aqueous infusion and decoction of leaves of roots of Petroselinum, that these preparations had a depressing effect upon the C.N.S. The effect of extracts from the leaves was weaker than that from the

Card : 1/2

USSR/Pharmacology. Toxicology. Cardiovascular Drugs V

Abs Jour : Ref Zhur - Biol., No II, 1958, No 51997

roots. In a series of experiments with isolated hearts of frogs, cats and rabbits and also upon hearts in situ, it was noted that small doses - 2 drops of a 1 percent aq. infusion of the leaves of Petreselinum, increased the amplitude and slowed cardiac contractions; larger doses (5-10 drops of 10 percent leaves infusion) were followed by depression of the cardiac activity. Intravenous administration of the infusion and decoction was followed by a fall in the blood pressure. Dilatation of blood vessels by an average of 50 percent was observed during perfusion of the blood vessels of an isolated ear of a rabbit with an infusion of Petroselinum leaves and roots, prepared with Ringer-Locke's solution in concentrations of 0-3-0.05 percent. -- A.A. Myazdrikova

Card : 2/2

USSR / Pharmacology and Toxicology. Medicinal Plants. V-8

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 80643

Author : Allakhverdibedov, G. B.; Aliyev, R. K.; Bagirov, S. N.; Tagdisi, D. G.

Inst : Not given

Title : On the Characteristics of the Chemical Composition and Some Pharmacological Properties of Galenicals of Tartaric Herbs Grown in Azerbaydzhan

Orig Pub : Sb. tr. Azerb. gos. med. in-ta, 1956, vyp. 2, 93-99

Abstract : The effect was studied of 10% aqueous tinctures of tartaric herb extractions (Onopondon acanthium; I) on coldblooded and warmblooded animals. I is little toxic, quickens the response reaction to pain stimulations, increases the amplitude of the heart contractions, increases the rhythm of the heart, causes sharp narrowing of the blood-carrying vessels of the isolated organs of both coldblooded and warmblooded animals, and increases blood pressure.

Card 1/1

ALIYEV, R.K.; ALLAKHVERDIBEKOV, G.B.; TAGDISI, D.G.; ISMAILOV, A.I.

Characteristics of the chemical composition and certain pharmacological properties of garden lettuce. Uch.zap.AGU no.8:59-69 '56. (MLRA 10:4)

(Lettuce) (Pharmacology)

USSR / Pharmacology, Toxicology. Cardiovascular Drugs.

Abs Jour: Ref Zhur-Biol., No 9, 1958, 42388.

Author : Allakhverdibekov, G. B.; Aliyev, R. K.; Bagirov S. N.; Kasumov, M. A.; Jagdist, D. G.

Inst : Azerbaidzhan University.

Title : On the Characteristics of the Chemical Composition of the Grass Erysimum Nachyzevanicum, Growing in Azerbaidzhan, and On the Action of Its Preparations Upon the Cardiovascular System.

Orig Pub: Uch. zap. Azerb. un-t, 1957, No 1, 125-134.

Abstract: Alkaloids constitute 0.033%, glycosides - 0.055% of dry weight of Erysimum nachyzevanicum. Intramuscular injection in white mice weighing 15-20 gm of 1 ml of a 10% aqueous infusion or alcoholic fluid extract of E. nachyzevanicum, in a concentration of 1:3, showed toxic effects and an equal

Card 1/3

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Abstract: volume of a 20% infusion or extract 1:2 caused death of the animals (3 out of 6). Following administration of 1 ml of 20% infusion or 1 ml of fluid extract of Erysimum, 3 out of 6 frogs, placed on their backs, were unable to return to the normal position. This dose was accepted by the authors as a unit (1 frog unit). At the time of the biological standardization, according to the method described in the state pharmacopea of USSR (8th edition), the injection into the lymphatic sac of the frog of I, 1 ml of a 30% aqueous infusion of E. nachyzevanicum or 0.25 ml of 0.1% solution of strophantin, similarly produced, within one hour, in 2 out of 6 frogs, a full arrest of the heart in systoly, in one frog - a transient standstill. The addition of 1 drop of a 10% aqueous infusion

Card 2/3

Abstract: of E. nachyzevanicum to Ringer's solution, feeding an isolated heart, caused increase of the amplitude and slowing of the cardiac contractions; the addition of 3 drops of a 5% infusion or 2 drops of fluid extract 1 : 1, showed toxic effects. These data were also confirmed on isolated hearts of warm blooded animals. After intervenous injection in cats and rabbits, of a 0.2 ml doses of fluid extract 1 : 1, an elevation of arterial pressure was observed; after a 1 ml dose - a fall was noted. -- L. N. Lavrent'yev

Card 3/3

29

ALLAKHVERDIBEKOV, G.B., BAGIROV, S.N., TAGDISI, D.G.,

Changes in certain chemical elements of the blood during artificial hypothermia. Azerb.med.zhur. no.6:75-77 Je '58 (MIRA 11:7)

1. Iz kafedry farmakologii (zav. - dots. G.B. Allakhverdibekov) Azerbaydzhanskogo gosudarstvennogo meditsinskogo instituta im. N.Narimanova (direktor - zasluzhennyy deyatel' nauki, prof. B.A. Eyvazov).
(BLOOD--ANALYSIS AND CHEMISTRY)
(HYPOTHERMIA)

TAGDISI, D.G., kand.med.nauk

Correctors for ganglion blocking, neuroplegic, and lytic drugs used to control traumatic shock. Azerb. med. zhur. no. 4:9-17 Ap '61. (MIRA 14:4)

1. Iz kafedry farmakologii (zav. - dotsent G.B. Allakhverdibekov) Azerbaydzhanskogo gosudarstvennogo meditsinskogo instituta imeni N.Narimanova.

(AUTONOMIC DRUGS)

TAGDISI, D.G.

Stages of the development of a traumatic shock. Izv. AN Azerb. SSR. Ser. biol. i med. nauk no.1:75-80 '62. (MIRA 17:6)

TAGIYEV, M.A.

Toxic factor in traumatic shock. Pat. fiziol. i eksp. terap. no.2:74-78 '64. (MIRA 17:9)

1. Kafedra patofiziologii (zav. prof. T.G.Pashayev) i kafedra farmakologii (zav. - dotsent G.B. Aliakhverdibekov) Azerbaydzhanskogo meditsinskogo instituta imeni Narimanova, Baku.

GASANOV, A.A.; [illegible] M.A., [illegible].Ye.; YAGBISI, D.G.

Present status of biochemistry based on materials of the First All-Union Congress of Biochemists. Izv. AN Azerb. SSR. Ser. biol. nauk 4:127-133 '64. (MIRA 17:7)

TAGDISI, D.G., kand. med. nauk

Antihistaminic activity of naphthalan petroleum. Azerb. med. zhur. 42 no. 10:27-32 O '65 (MIRA 19:1)

1. Iz kafedry farmakologii Azerbaydzhanskogo meditsinskogo instituta imeni N. Narimanova (rektor - prof. Kh.A. Gasanov). Submitted October 27, 1964.

TAGAYEVSKAYA A. A.

Krassov I. M., Tagayevskaya A. A. and Vasil'yeva M. A., "Determination of the Amplitude-phase Characteristics of a Regulator by the Rectangular Wave Method," Avtomatika i Telemekhanika [illegible], 3, Pages 322-327, 11 figures; bibliography, 4 items.

TAGAYEVSKAYA, A. A.

Dudnikov, Ye. G., Krassov, I. M., Tagayevskaya, A. A., Temnyy, V. P., and Barkalov, P. T., "Experimental Determination of the Dynamic Characteristics of Regulated Industrial Machinery," Avtomatika i telemekhanika, 1953, Volume XIV, No. 4, Pages 418-423, 5 figures; bibliography, 6 items.

TAGAYEVSKAYA A. A.

Tagayevskaya A. A., "Determination of the Amplitude-phase Characteristics of a Linear System by the Curve of its Transition Process," Avtomatika i telemkhanika, 1953, Volume XIV No 2, Pages 231-237, with tables; bibliography, 6 items.

EL'SHTEYN, N.N.; TAGEN, U.A. (Estonskaya SSR)

Course and treatment of chromic sepsis of candidomycosis. Vrach. delo no.8:111-114 Ag '60. (MIRA 13:9)

1. Tallinskaya respublikanskaya bol'nitsa i Tyuriskaya rayonnaya bol'nitsa Estonskoy RSR.
(MONILIASIS)

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

2

Solution and swelling phenomena in cellulose esters. II. A. Tager and V. A. Kargin. *Acta Physicochim. U. R. S. S.* 14, 713-36(1941)(in German); *J. Phys. Chem.* (U. S. S. R.) 15, 1036-54(1941)(in Russian); cf. *C. A.* 37, 2658[6].—The heat of soln. of *cellulose nitrate* (I), contg. 11.83% N, in acetone is 16-18 cal. per g. for concns. varying from 0.2 to 2.1%; for *cellulose acetate* (II) contg. 55% OAc it is 6.9-10.6 cal. for concns. from 0.3 to 5.8% of dissolved material. Similar values are obtained for soln. in MeCOEt and MeCOPr. When I is treated with various alcs., it swells strongly in all cases; the heat of reaction is 14.2 cal./g. for MeOH, and 9.7 for EtOH; with PrOH and BuOH and glycols and glycerol, the heat of sorption is zero. The heat of sorption of acetone and MeCOEt gasoline is proportional to the quantity absorbed. The heat of soln. of *cellobiose octoacetate* (III) in acetone or $CHCl_3$ differs greatly from that of II, probably because III is a cryst. substance. Other properties of these polymers also indicate that they are liquid in nature. When interacting with a solvent the polymer mol. components seem to act more or less independently; this indicates great flexibility of the polymer chains. Their soln. involves very great changes in entropy, usually exceeding the energy values of the interaction.

P. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Reversibility of solutions of cellulose nitrate, benzylcellulose, and gelatin. I. Dissolution and swelling of cellulose esters. II. A. Iager and V. A. Kargin (*J. Phys. Chem. Russ.*, 1941, **15**, 1029—1033, 1036—1054) — I. The solubility of benzylcellulose (I) in PhMe at 25° increases with the amount of (I) used but the dissolved part of (I) forms less viscous solutions than the undissolved residue. Qualitatively, dissolution of (I) in PhMe and C_6H_6, and of gelatin in H_2O, appears to be reversible.

II. The heat of dissolution of cellulose nitrate (II) in $COMe_2$ is 16—18 g. cal. per g., and of cellulose acetate (III) (56% of OAc) in $COMe_2$ 9—11 g. cal. per g., almost independent of dilution. The heat of sorption of $COMe_2$ and of $COMeEt$ from gasoline by (II) is $\frac{1}{3}$ the amount sorbed. The heat of dissolution of cellulose triacetate (IV) in $COMe_2$ and in $CHCl_3$ is very different from that of (III), the difference is due probably to (IV) being cryst. and (III) liquid. Other properties of polymerides also indicate their liquid nature. J. J. B.

2

30

The mechanism of swelling of rubberlike high-molecular substances. High-molecular isoparaffins and isooctane. A. Tager and V. A. Kargin. *Kolloid. Zhur.* 10, 455-62(1948).—The behavior of a polymer dissolved in its hydrogenated monomer (in this system the forces between various segments of the polymer mol. are very similar to the forces between these segments and the solvent mols.) was studied by the effect of Oppanol (I) and Vistanex (II) on the vapor pressure of 2,2,4-trimethylpentane (III). Samples of I and II were suspended on spring balances in III vapor, and the amt. x/m (g./g.) of III taken up by the absorbent was detd. at various equil. vapor pressures p at 55°. The relative vapor pressure p/p_0 varied between 0.11 and 0.56 and x/m between 0.013 and 0.18. If Raoult's law were valid for these concd. mixts., the mol wts. M of I and II would be roughly equal and ≈ 1000. The viscometric M of I was 320,000, and of II 90,000. In concd. soln. a chain of 10-12 links is the kinetic unit of I and II; in dil. solns. the whole mol. is this unit. When viscometric M values are used for calcg. the entropy S of mixing, the calcd. S is about 0.01 the exptl. S, because the presence of solvent greatly increases the no. of possible configurations of the polymer mol. J. J. B.

Lab. of Colloid Chem., Physicochem. Inst. im Karpov

ASTIA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

B

2P

Plasticization of High-Molecular-Weight Substances. (In Russian.) A. A. Tager. *Uspekhi Khimii* (Progress in Chemistry), v. 18, Sept.-Oct. 1949, p. 557-577.

Reviews literature on the above, studying the problem under explanation of plasticizer mechanisms, compatibility of plasticizer with polymer, and influence of temperature, time, frequency, and per cent plasticizer on elastic deformation. The concept of external and internal plasticizers is discussed. Theoretical bases of compatibility are investigated. 35 ref

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

30

The heats of solution and swelling of some synthetic high-molecular compounds. A. Tager and V. Smatma *Kolloid. Zhur.* 12, 474-7(1950).—The integral heat Q of soln. of polymers in C_6H_6 was independent of the final concn., which was varied from 0.2 to 4%. At 24-26° it was −1.5 and −2.6 cal./g. for 2 samples of butadiene rubber, 2.5 for polystyrene, and −1.4 and 1.7 for 2 butadiene-nitrile rubbers (Buna-26 and Buna-40). A butadiene-styrene(75:25) copolymer (Buna-S) had Q = 0.36, i.e., the sum of the Q values of the constituents. Fresh polychloroprene had −0.12 and one aged for 1.5 yrs. had −8.5 cal./g. The more neg. Q, the more flexible and the more cryst. the polymer. The Q of polyisobutylene was in C_6H_6, −1.6, toluene −0.4, heptane −0.3, and 2,2,4-trimethylpentane 0.0. The zero heat in the last instance is due to the identity between the solvent and the (double) segment of the polymer chain. J. J. Bikerman

State U im Gorky

RAZIN, A. A.

Science

Solutions of high-molecular compounds; Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1951.

O. Monthly List of Russian Accessions, Library of Congress, May 1952 1953, Uncl.

CA

2

The dissolving capacity of a solvent and the viscosity of solutions of high-molecular compounds. A. Tager and K. Vershkain (Ural State Univ.). *Kolloid. Zhur.* 13, 123-8 (1951); cf. *C.A.* 45, 2250i.—Alfrey (*C.A.* 41, 2628f) expected the heat Q of soln. to det. the intrinsic viscosity ($[\eta] = \eta/\eta_0 c$ at $c = 0$; η_0 is the viscosity of solvent and c concn.) and the slope of the straight line "$\eta/\eta_0 c$ as function of c". This expectation is not confirmed. Thus $[\eta]$ of polyisobutylene (I) was 1.6 in C_6H_6, heptane, and isooctane, although the corresponding Q values are −1.62, −0.34, and 0.0 cal./g., whereas $[\eta]$ and Q in toluene were 2.15 and −0.43, resp. The $[\eta]$ of cellulose acetate (II), Ac no. 55.8, was 1.1 in $COMe_2$ and HCOOH, although their Q values are +0.3 and +10.5, resp. Three fractions of cellulose nitrate (III) had $[\eta]$ 2–4 in $COMe_2$ and 0.5–1 in pyridine, although Q in pyridine is greater than in $COMe_2$. The slope of $\eta/\eta_0 c$ was greater for greater Q in the instance of II, greater for smaller Q in the instance of III, and showed no definite dependence on Q in the instance of I. The $[\eta]$ is not a measure of the dissolving capacity of a solvent.

J. J. Bikerman

17

28

3182* Heats of Solution and Swelling of Some Synthetic High-Molecular Compounds. V. Lapet and V. Sanatina. Rubber Chemistry and Technology, v. 24, Oct-Dec 1951, p. 773-776. (Translated and condensed from Kolloidnyi Zhurnal v. 12, June 1950, p. 174-177.)

TAGI, A.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
General and Physical Chemistry

Thermodynamic study of systems of polymers and hydrogenated monomers. A. Tagi and V. A. Kargin. Colloid J. (U.S.S.R.) 14, 305-9(1952)(Engl. translation).—See C.A. 47, 1465h. H. L. H.

(2) Chem

11-9-54

DREVAL', V.Ye.; TAGER, A.A.; FOMINA, A.S.

Concentrated solutions of polymers. Part 4: Viscosity of polystyrene solutions in various solvents. Vysokom.soed. 5 no.9:1404-1410 S '63. (MIRA 17:1)

1. Ural'skiy gosudarstvennyy universitet imeni Gor'kogo.

TAGER, A.A.; KARGIN, V.A.

Heat of solution of polymers and their hydrogenated monomers in the same liquid [with summary in English]. Zhur.fiz.khim. 32 no.12:2694-2701 D '58. (MIRA 12:2)

1. Ural'skiy gosudarstvennyy universitet imeni A.M. Gor'kogo, Sverdlovsk.
(Heat of solution) (Polymers)

TAGER, A.A.; TSILIPOTKINA, M.V.; DORNONIA, V.K.

Effect of the molecular weight of vitreous polymers on the packing density of their chains. Part 2: Polymethylmethacrylates [with summary in English]. Zhur.fiz.khim. 33 no.2:335-341 F '59. (MIRA 12:4)

1. Ural'skiy gosudarstvennyy universitet im. Gor'kogo Sverdlovsk.
(Methacrylic acid)

SOV/76-33-3-14/41

5(4)

AUTHORS: Tager, A. A., Popova, O.

TITLE: Effect of the Molecular Weight of Vitreous Polymers Upon Their Chain Packing Density (Vliyaniye molekulyarnogo vesa stekloobraznykh polimerov na plotnost' upakovki ikh tsepey). III. Triacetylcellulose (III. Triatsetiltsellyulozy)

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ABSTRACT: Four different samples were investigated: M = 140000, 82000, 48000, 1360 and the acetyl numbers 60.43%, 61.77%, 62.15%, 65.71%. Three of the samples were provided by P. V. Kozlov the fourth was produced by the authors (Refs 1,2). Chloroform and acetone were used as low-molecular liquids. The isothermal lines of sorption of the first sample is S-shaped, differing therefore from the isothermal lines of sorption on polystyrene (Ref 3) and polymethyl methacrylate (Ref 4) and reminds of the isothermal lines of sorption of water and cellulose (Ref 5). The quantities $\Delta\mu_1$, $\Delta\bar{H}_1$, $\Delta\bar{S}_1$ were calculated from the experimental data obtained and it was found that the sorption of chloroform is accompanied by a higher heat effect than the

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sorption of acetone. The sorption of these two liquids proceeds under a sharp decrease in entropy. The high capability of sorption, the considerable loss in heat and the decrease in entropy in connection with sorption give evidence of loose packing of the macromolecules of triacetylcellulose (I) (Refs 4,6). A particularly marked increase in the capability of sorption with the molecular weight of (I) was observed at M= 50000 - 70000. The increase in the molecular weight of the polymers increases also the integral and differential heat of mixing and reduces the entropy of mixing of the solvent. Principal agreement was found between the experimental results obtained and results previously obtained for polystyrene and polymethacrylate; it was also found that the vitreous polymers with loose packing are similar to the porous colloidal sorbents. There are 1o figures and 12 Soviet references.

ASSOCIATION: Sverdlovskiy gosudarstvennyy universitet (Sverdlovsk State University)

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TAGER, A.A.; TSILOPOTKINA, M.V.; SUVOROVA, A.I.

Effect of annealing on molecular packing in polystyrene. Dokl. AN SSSR 124 no.1:133-134 Ja '59. (MIRA 12:1)

1.Ural'skiy gosudarstvennyy universitet imeni A.M. Gor'kogo. Predstavleno akademikom V.A. Karginym.
(Styrene)

TAGER A. A.

ELIKMAN, S. A.

Reply to S. A. Elikman's review of the book "Solutions of high molecular weight compounds" by A. A. Tager. Kill. zhur. 14 No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952. UNCLASSIFIED.

TAGER, A.

Thermodynamic study of polystyrene solutions. A. Tager and Zh. S. Dombek. *Colloid J. U.S.S.R.* 15, 75-86(1953)(Engl. translation).—See *C.A.* 47, 4606e.
H. L. H.

TAGER, A.

Temperature of vitrification and fluidity of natural rubbers of different molecular weights. A. Tager, M. Iovleva, T. Kantor, and L. Muzheva. *J. Appl. Chem. U.S.S.R.* 27, 1163-5(1954)(Engl. translation).—See *C.A.* 49, 7887c.
B. M. R.